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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,859	07/31/2001	Shigeoki Kayama	313KA/50252	9469

7590 11/05/2003

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EXAMINER	
SICONOLFI, ROBERT	
ART UNIT	**PAPER NUMBER**
3683	

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/917,859	KAYAMA ET AL.	
	Examiner	Art Unit	
	Robert A. Siconolfi	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Response filed on 9/12/03 has been received.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/12/03 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al (U. S. Patent no. 5,674,011)

Hoffman et al is the admitted prior art of Figure 7 and is discussed in the specification on pages 6 and 7. This is also the only disclosure in the instant application of the coupling device, which is claimed in all of the independent claims. Axle unit having an outside end that doesn't rotate, hub 9 with first spline section unnumbered, drive member 2 with second spline section 10 and an inside end forming the housing of the constant velocity joint, coupling member 8, rolling bodies 42, outer race 1, constant velocity joint unnumbered

Hoffman et al does not disclose the clearance angle between the first and second spline section. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ranges claimed for the clearance angle as such is merely an optimization based on routine experimentation. Optimization based on routine experimentation is only patentable when the range is considered critical or the experimentation produces unexpected results (see MPEP 2144.05 and 716.02).

Regarding claims 7-9, as currently written the combination of a robot arm and the drive unit is being claimed. If the combination is not desired by the applicant, the claims must be rewritten in functional language. The examiner takes Official Notice that the use of robot arms to assembly parts for machines such as automobiles is well known and it is

therefore obvious to one of ordinary skill in the art to use a robot arm to assemble the drive unit. Furthermore, the method disclosed in claims 8 and 9 depend off apparatus claims (2-4 and 7). As such the method steps are not given patentable weight.

6. Claims 1-4, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art figure 8.

Prior art figure 8 is equivalent to figure 5 of the instant application. As argued by the applicant figure 5 shows the elements in claim 6 and therefore figure 8 which has the same structure will also read upon the claim.

Prior art Figure 8 does not disclose the clearance angle between the first and second spline section. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ranges claimed for the clearance angle as such is merely an optimization based on routine experimentation. Optimization based on routine experimentation is only patentable when the range is considered critical or the experimentation produces unexpected results (see MPEP 2144.05 and 716.02).

Regarding claims 7-9, as currently written the combination of a robot arm and the drive unit is being claimed. If the combination is not desired by the applicant, the claims must be rewritten in functional language. The examiner takes Official Notice that the use of robot arms to assembly parts for machines such as automobiles is well known and it is therefore obvious to one of ordinary skill in the art to use a robot arm to assemble the drive unit. Furthermore, the method disclosed in claims 8 and 9 depend off apparatus claims (2-4 and 7). As such the method steps are not given patentable weight.

Response to Arguments

7. Applicant's arguments filed 9/12/03 have been fully considered but they are not persuasive. Applicants argue that the examiner's reliance on MPEP 2144.05 is misguided because a clearance fit is the opposite of an interference fit. The examiner disagrees. The only difference between a clearance fit and an interference fit is the amount of clearance. An interference fit is in the range of negative clearances while a clearance fit is in the range of positive clearances. Therefore, the ONLY difference is in the ranges of clearance. Furthermore, the examiner would like to note that the Applicants claim an Interference fit in claim 4 as part of their range (-17 minutes to 42 minutes, less than 0 minutes is an interference fit). Applicants even state this on page 18 of the specification. Therefore, not only is the applicant incorrect in stating that they are only claiming clearance fits, the claimed range indicates that the applicants believe interference fits and clearance fits are NOT opposites since they are both part of their invention.

Applicants also argue unexpected results since the clearance fit does not produce significant noise. The examiner disagrees with this assessment since there is no clear standard for what constitutes "Significant" noise. As the examiner explained in a previous action, a noise level might be acceptable for a mass market car but might be unacceptable for a luxury car. The applicants provide no hard data regarding the noise levels. The only discussion of the noise levels that can be found is on page 23 of the specification.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Siconolfi whose telephone number is 703-305-0580. The examiner can normally be reached on M-F 10 am-3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on (703) 308-3421. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Robert A. Siconolfi 10/2/03
Robert A. Siconolfi
Examiner
Art Unit 3683

RS